



CO ENERGY IMPACTS: PRODUCTION, JOBS, REVENUES & FORECASTS

Chris Akers

State Demography Office

Energy & Environment Symposium

April 19, 2018



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OVERVIEW

- Colorado Oil & Gas Production
- Employment Changes
- Price & Production Forecasts
- State Revenue Projections

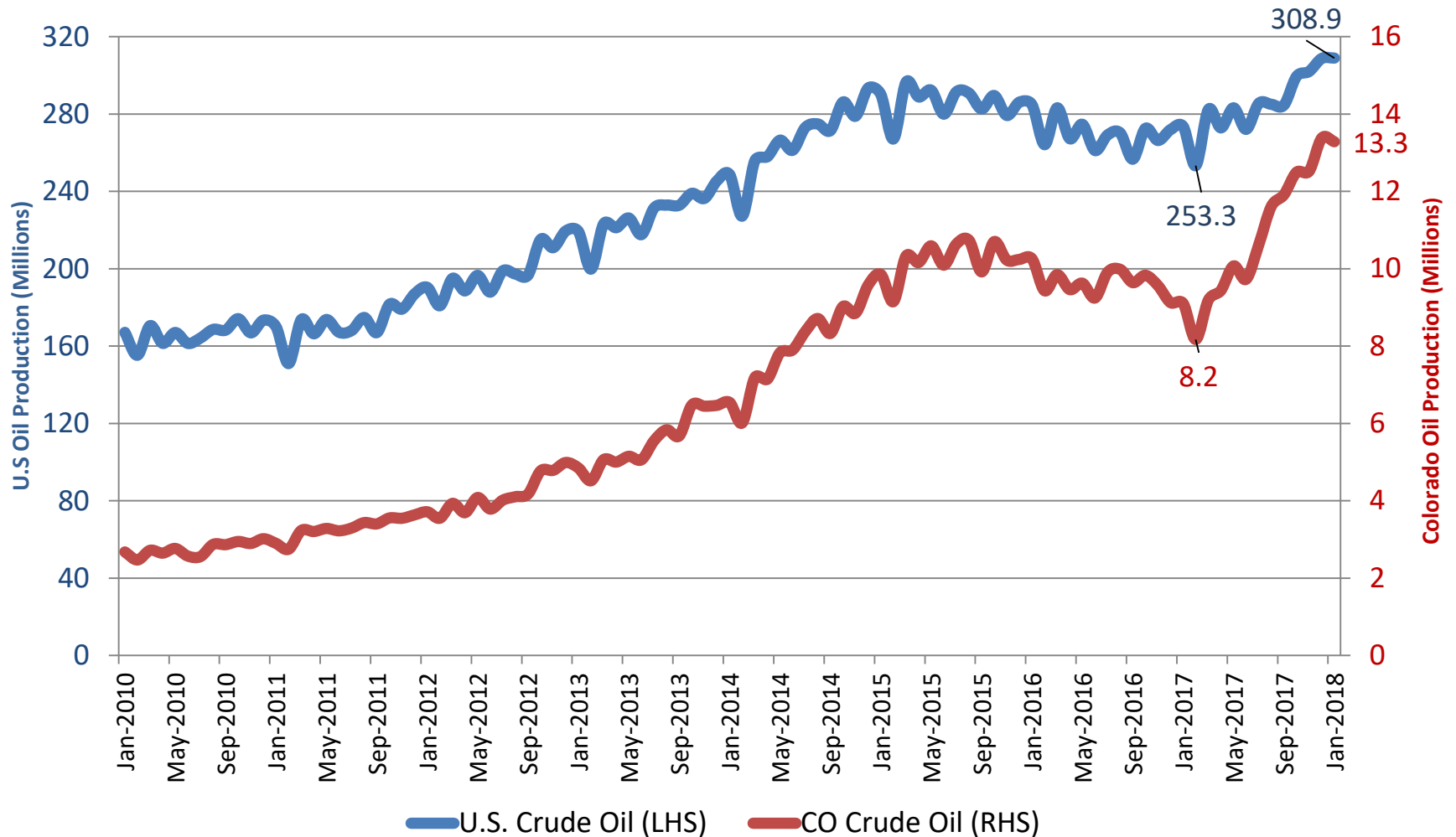


QUESTIONS?

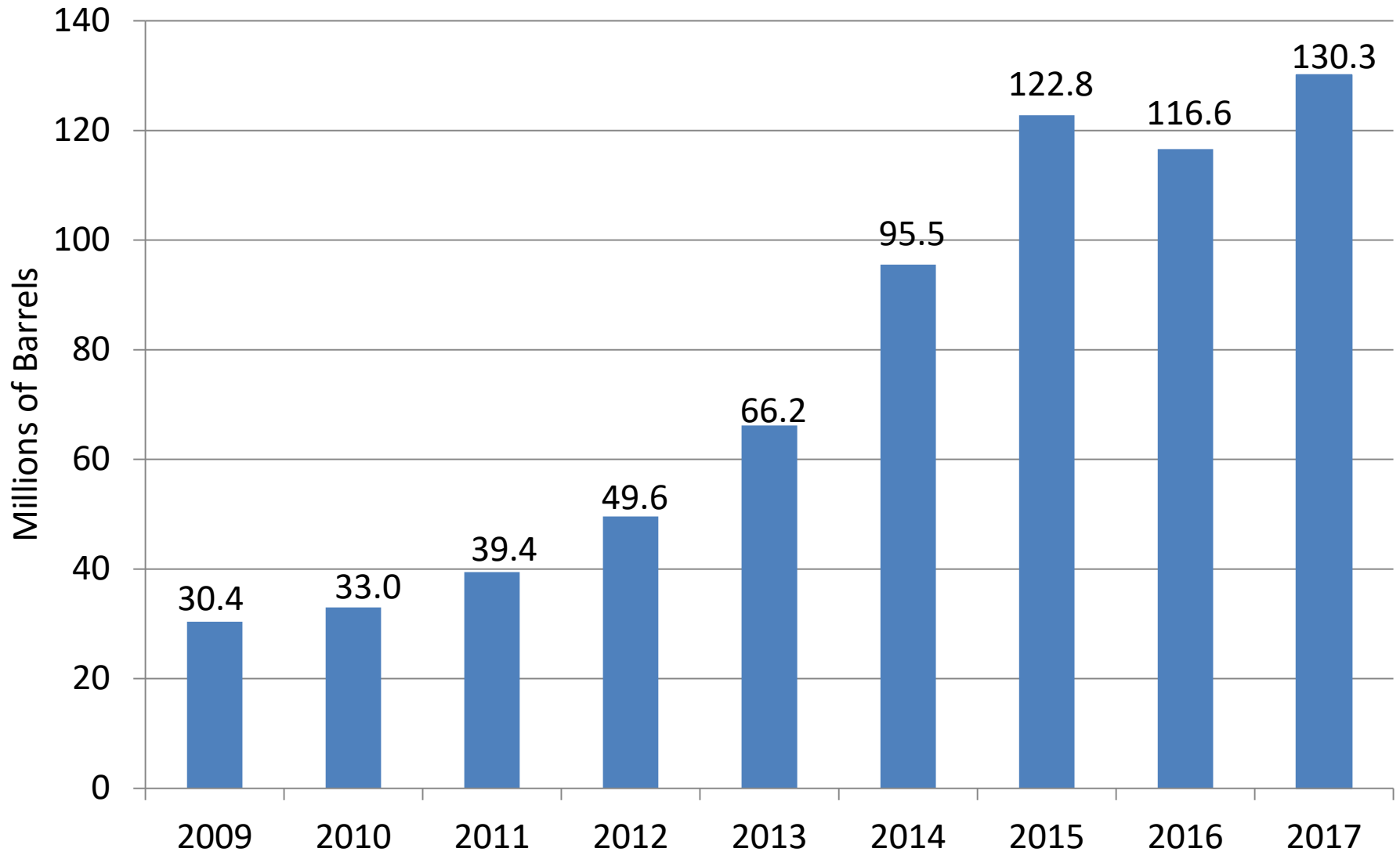


CRUDE OIL PRODUCTION JAN 2010 – JAN 2018

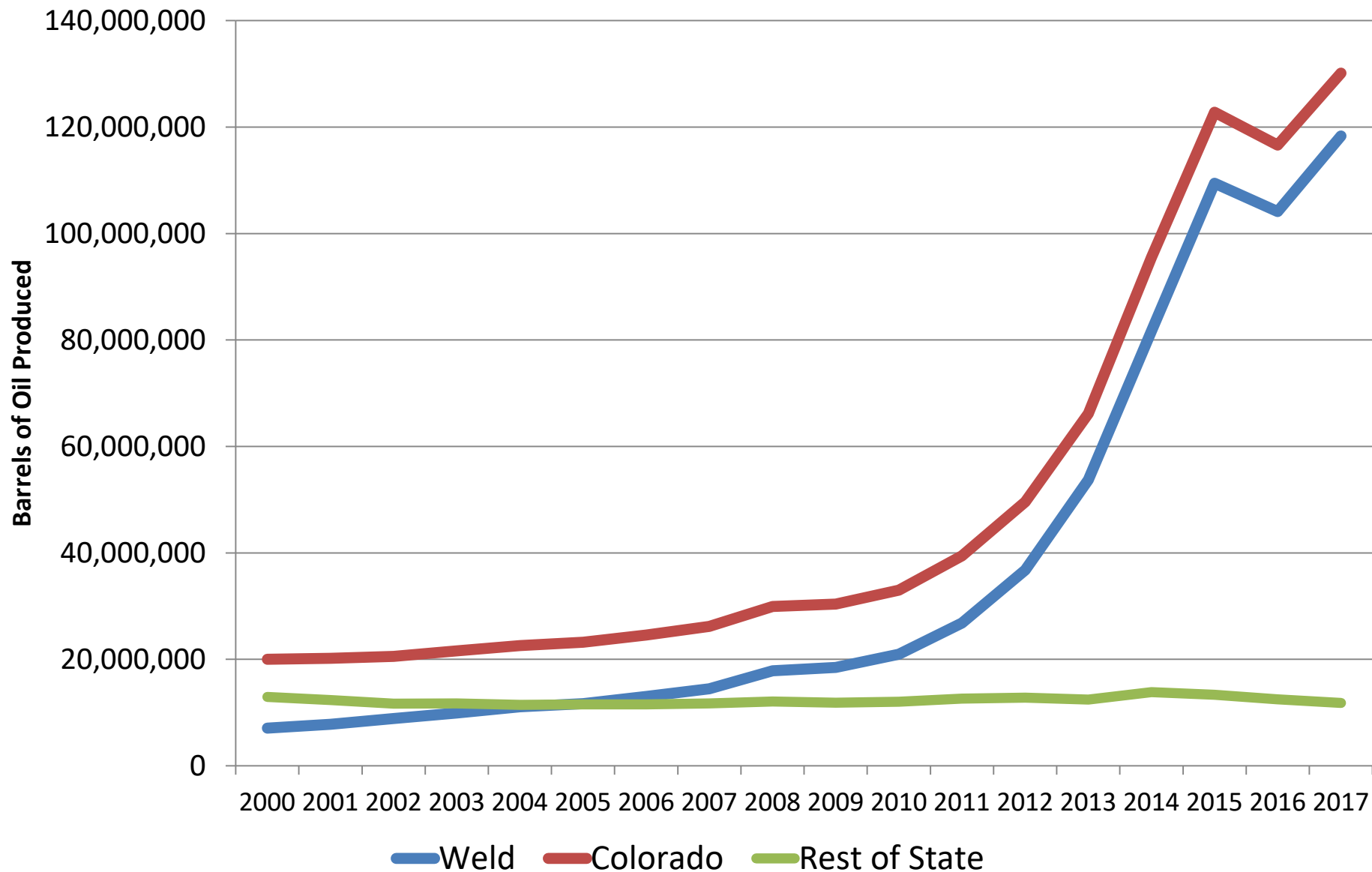
U.S. vs. CO Crude Oil Production (Millions Barrels per Month)



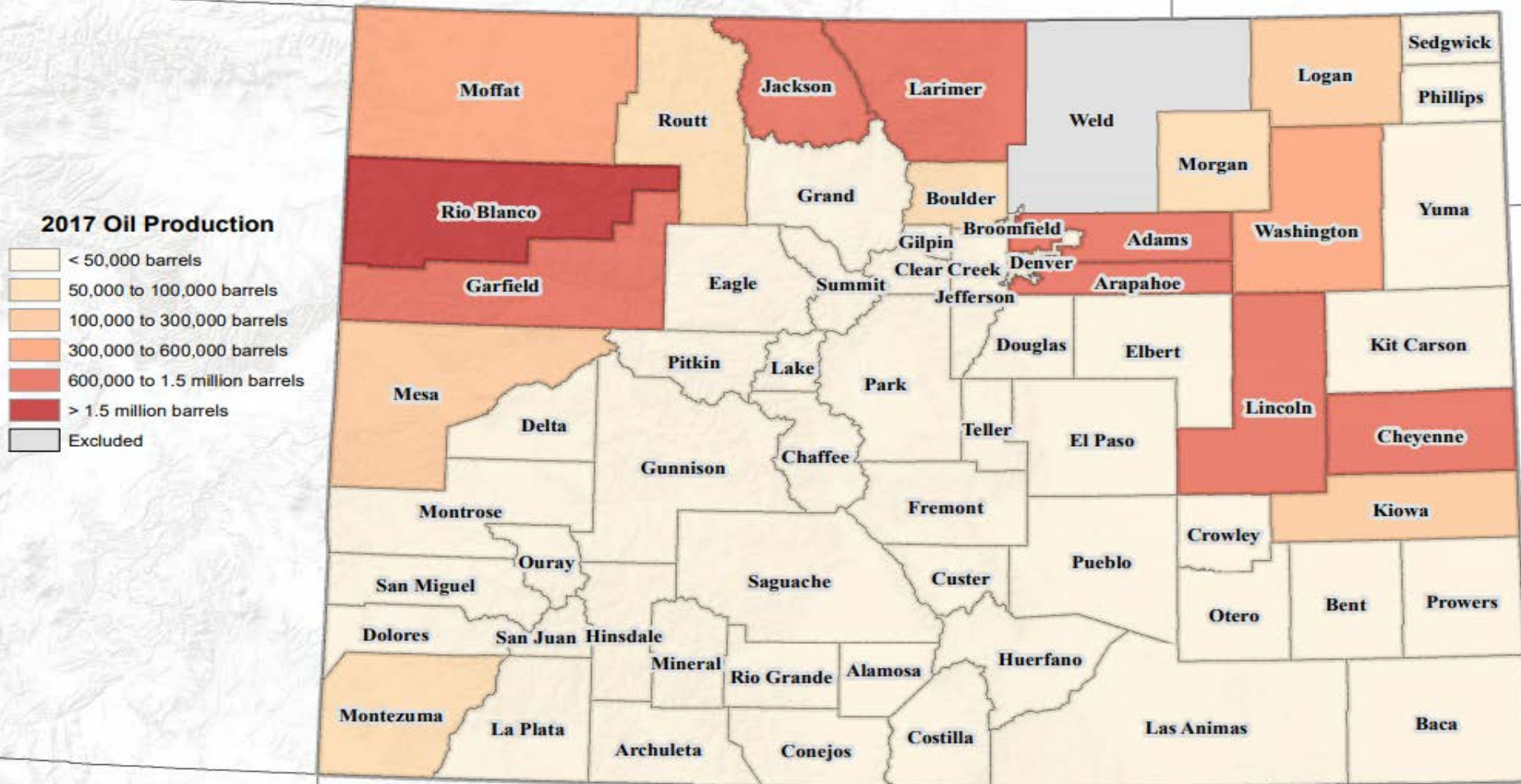
CO ANNUAL OIL PRODUCTION 2009 – 2017



Colorado Oil Production 2000 to 2017



Colorado 2017 Annual Oil Production



Data: Colorado Oil and Gas Conservation Commission
Created: 04/10/2018

Sources: Esri, USGS, NOAA

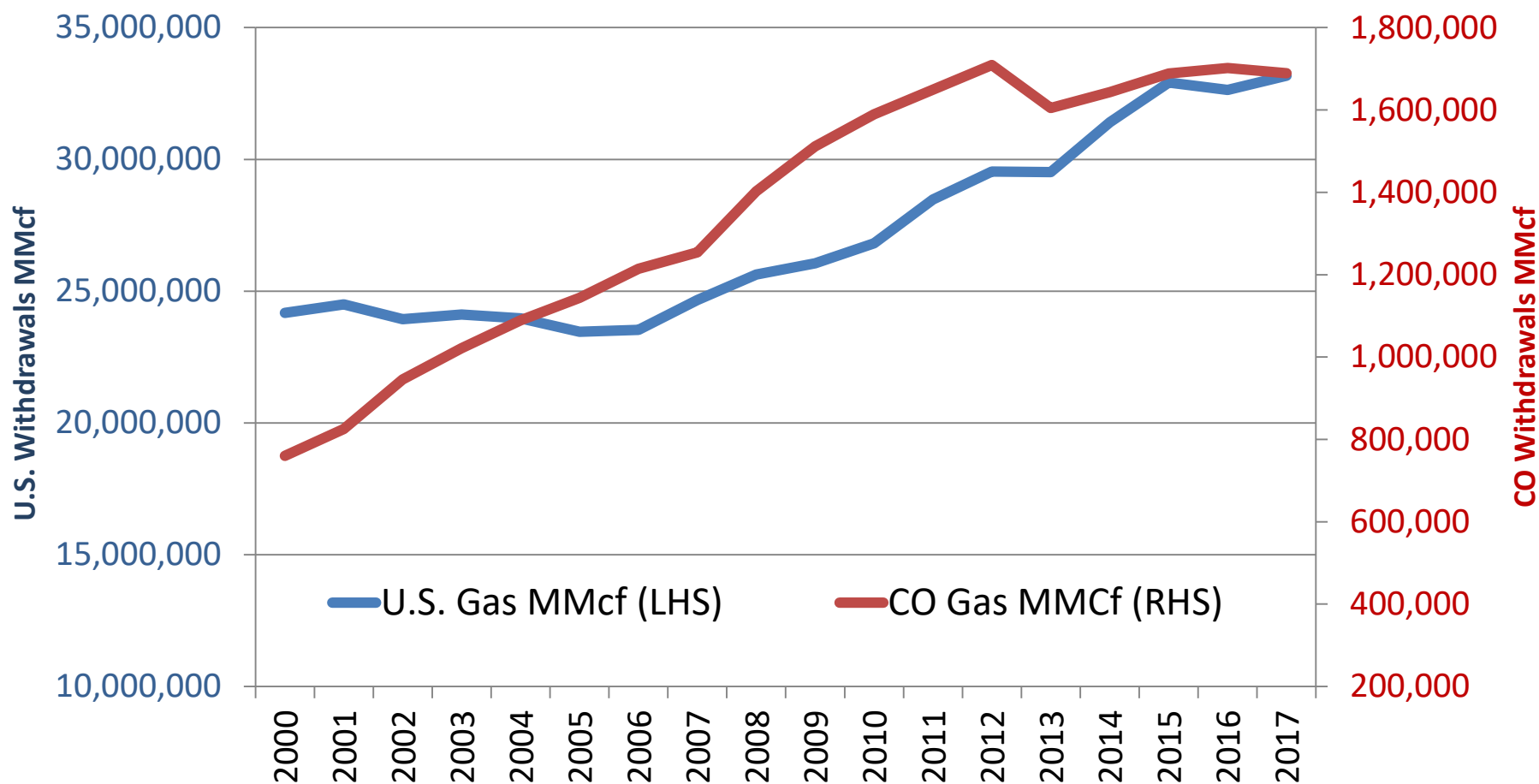


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Source: <http://cogcc.state.co.us/COGCCReports/>

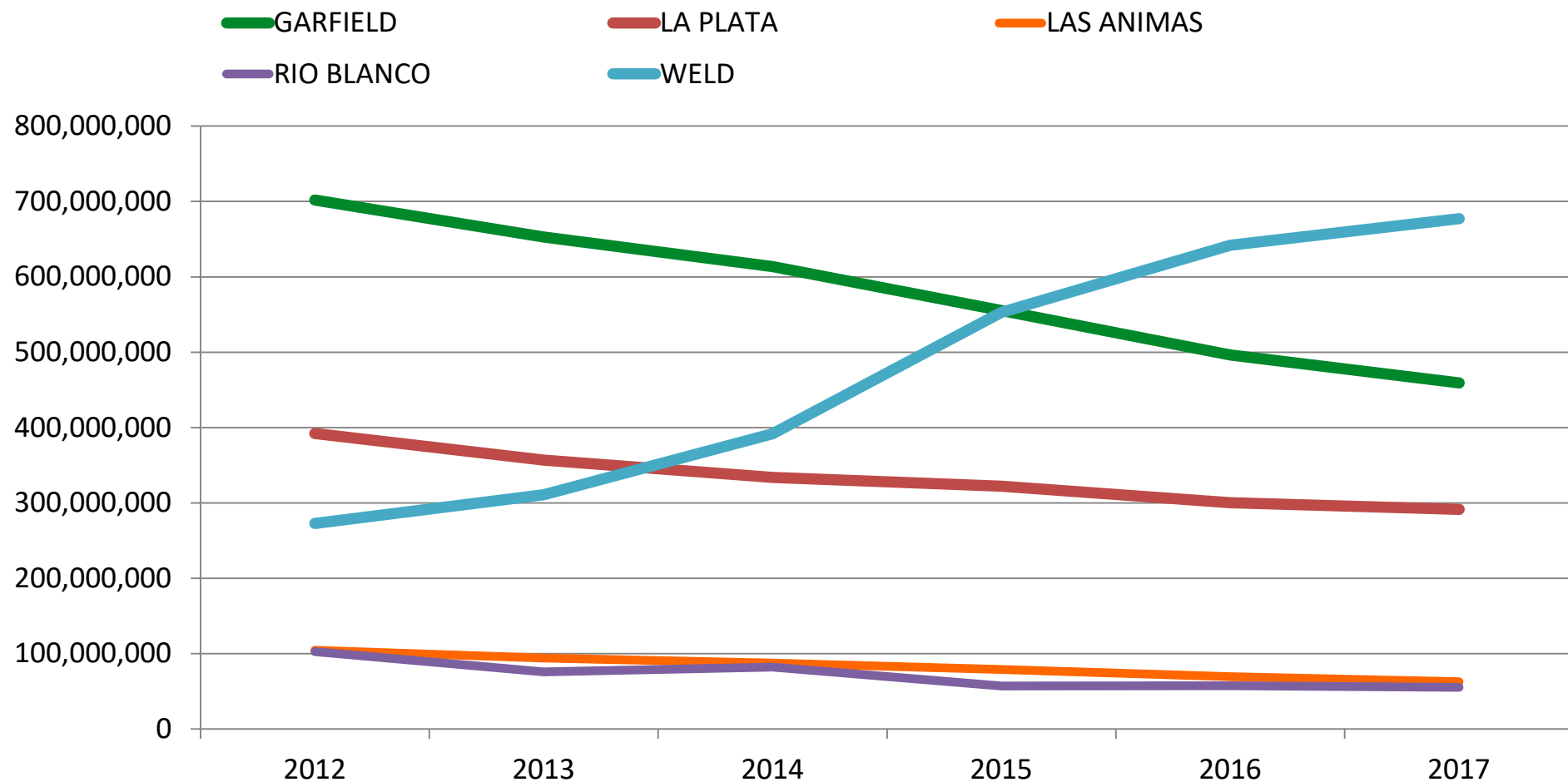
NATURAL GAS WITHDRAWALS 2000 - 2017

Natural Gas Withdrawals U.S. vs. CO



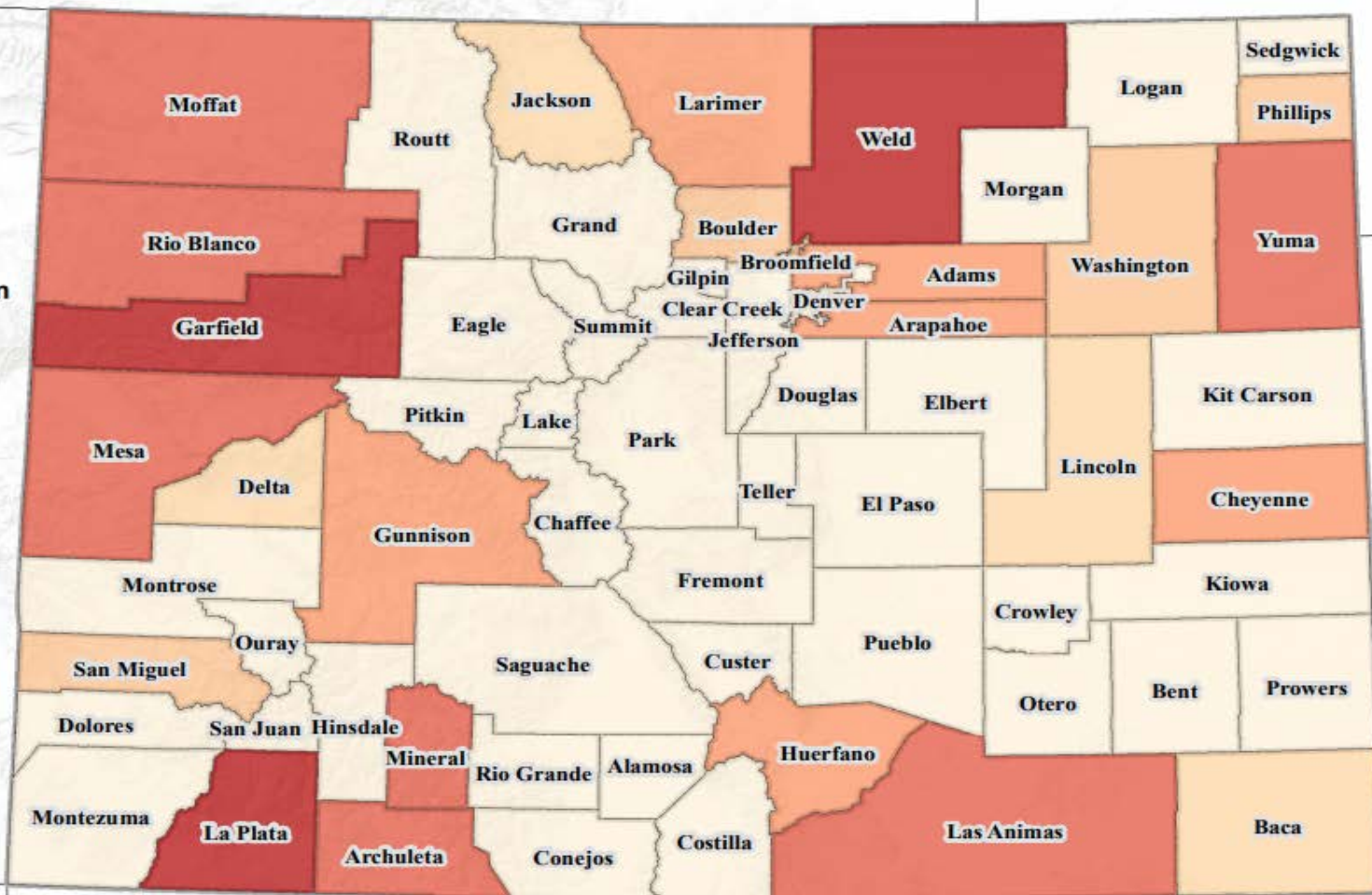
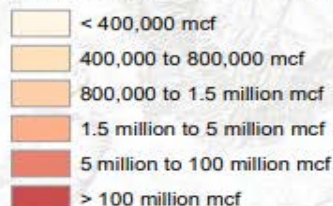
NATURAL GAS PRODUCTION SHIFT

Annual Natural Gas Production (MCF) in Colorado's Top 5 Counties - 2012 to 2017



Colorado 2017 Annual Natural Gas Production

2017 Natural Gas Production



Data: Colorado Oil and Gas Conservation Commission
Created: 04/10/2018

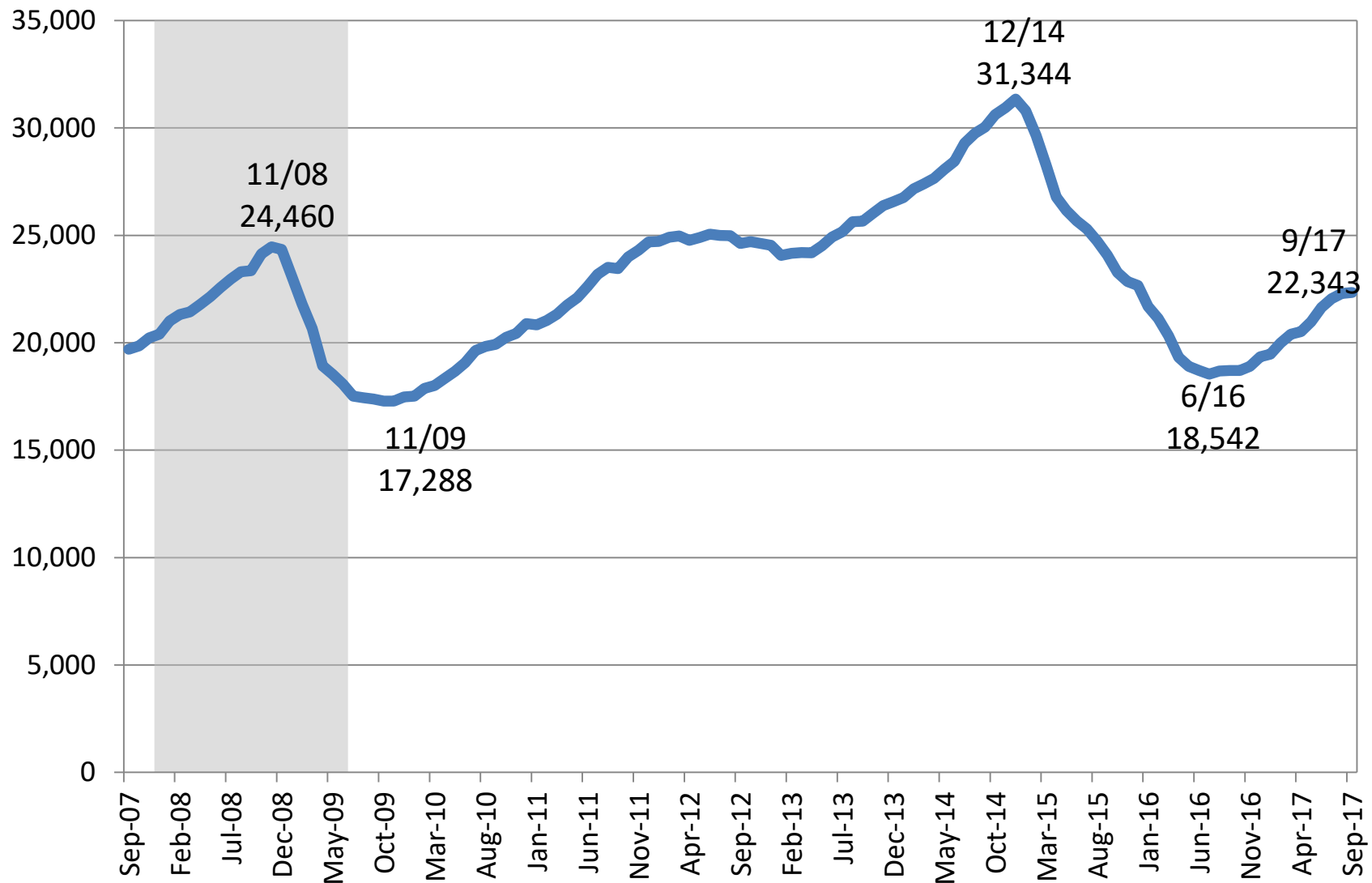
Sources: Esri, USGS, NOAA



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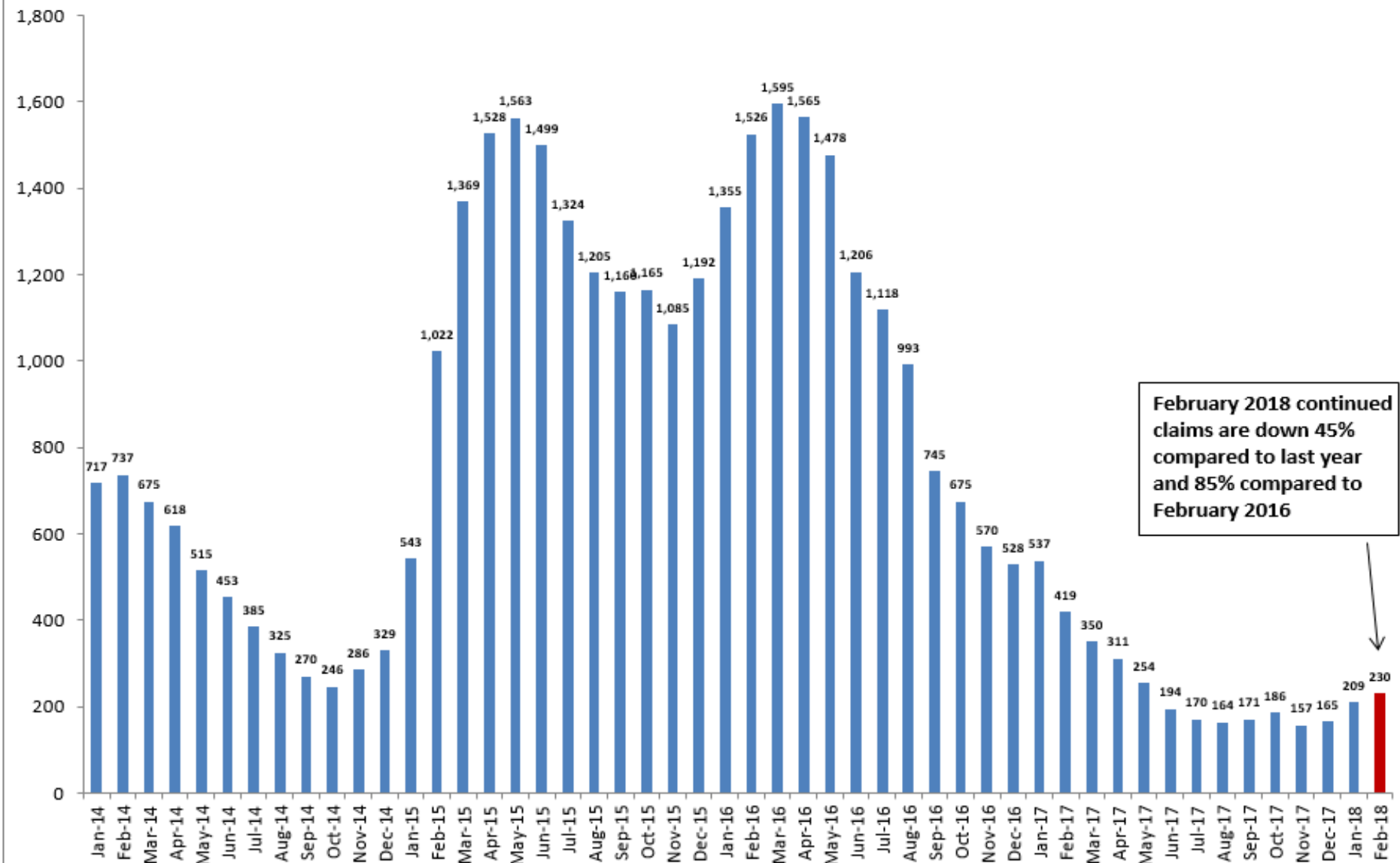
Source: <http://cogcc.state.co.us/COGCCReports/production>

COLORADO OIL & GAS EMPLOYMENT 2007 - 17



Colorado Mining Sector - Continued Weeks Claimed

(Reflects Week of 19th for Each Month)



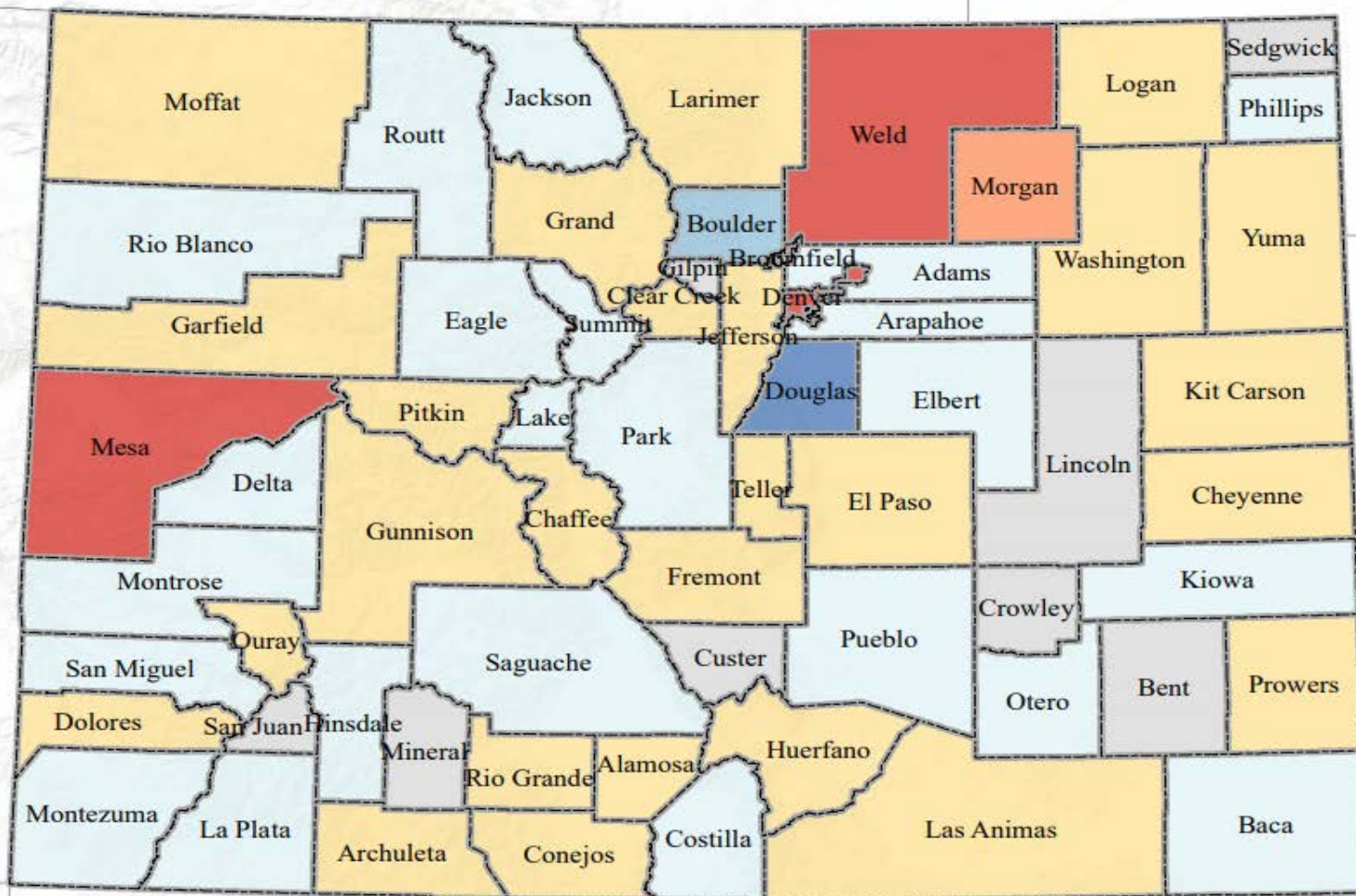
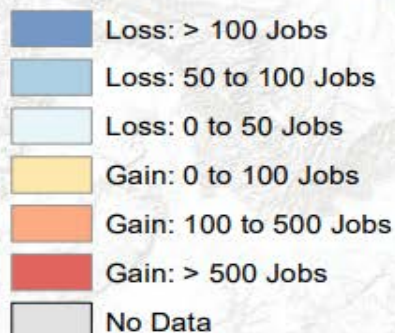
MINING EMPLOYMENT REBOUNDED, BUT NOT EVENLY ACROSS COLORADO COUNTIES

- 10,400 Mining Jobs lost from 2014 to 2016
 - Dampened Overall Job Growth – only 2.4% in '16 & caused weakness in Wages – only +1.0%
- +2,000 Mining Jobs in 2017 (8.4% growth)
- 3rd Quarter Growth of 15% (3,700 jobs)

Colorado 1 Year Change in Mining Employment

Q3 2016 to Q3 2017

Employment Change



Data: Quarterly Census of Employment & Wages, Colorado State Demography Office
Created: 04/11/2018

Sources: Esri, USGS, NOAA



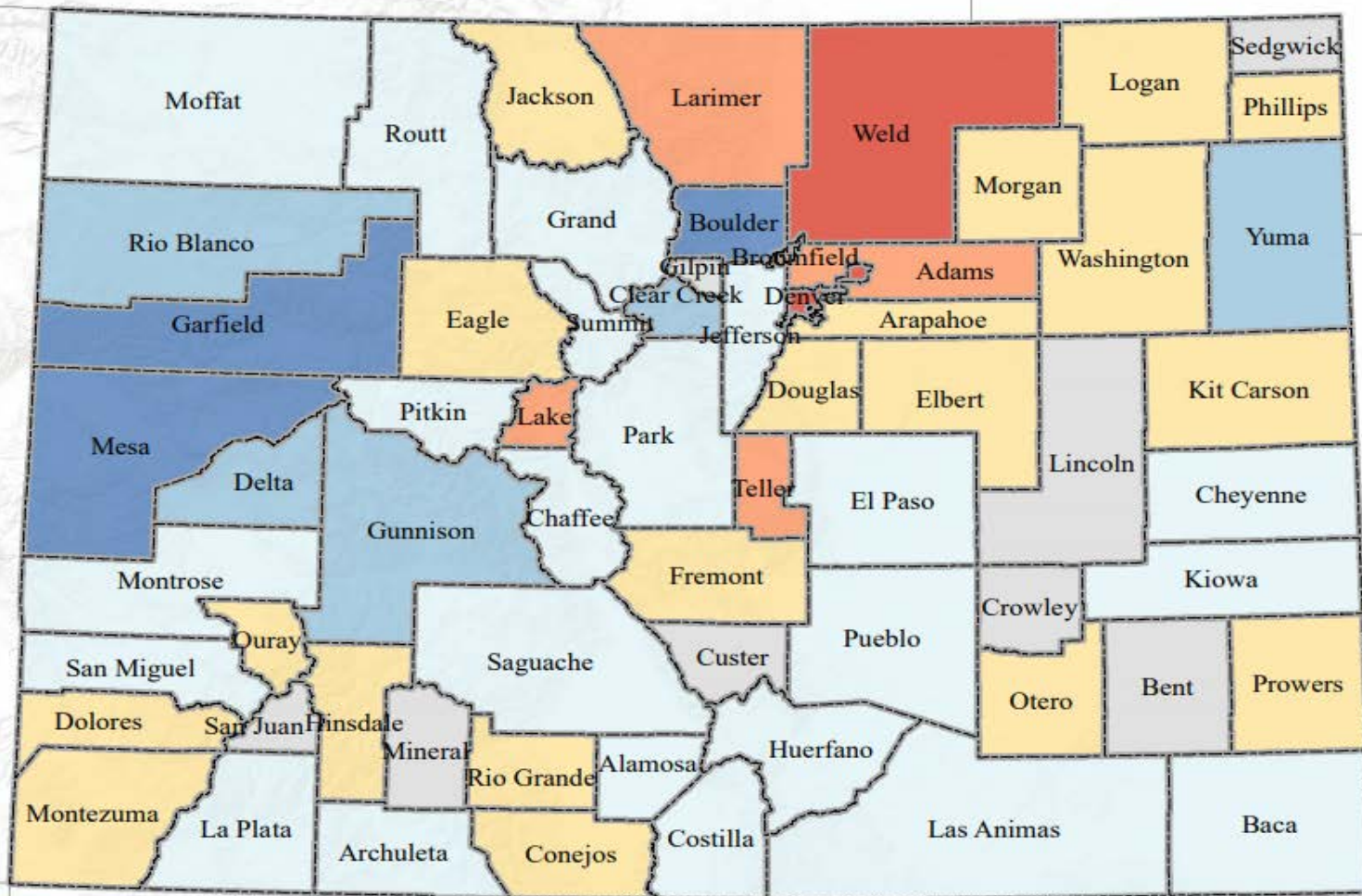
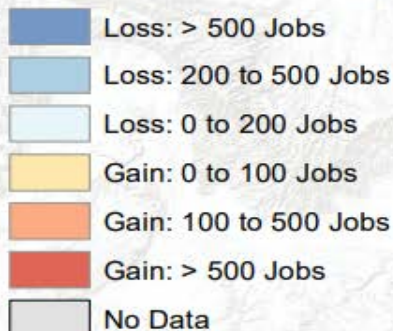
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Source: CDLE / QCEW

Colorado 10 Year Change in Mining Employment

Q3 2007 to Q3 2017

Employment Change



Data: Quarterly Census of Employment & Wages, Colorado State Demography Office
Created: 04/11/2018

Sources: Esri, USGS, NOAA



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Source: CDLE / QCEW

EMPLOYMENT CHANGE FROM 2007 IN SELECT COUNTIES

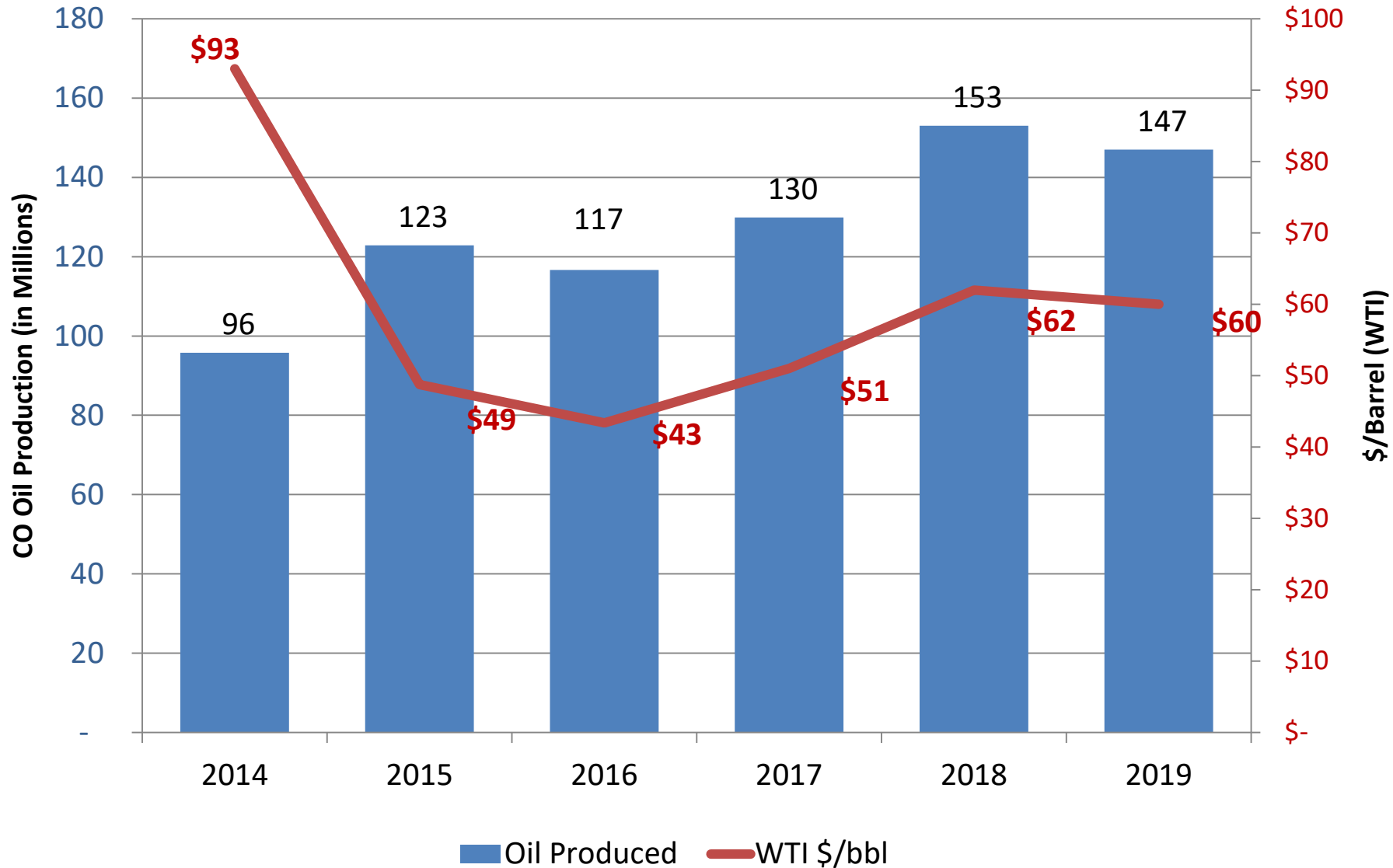
County	Total Job Change	Mining Job Change	Total Job Change Less Mining Jobs
Mesa	-325	-689	364
Yuma	-67	-283	216
Garfield	-1,271	-1,287	16
Cheyenne	-79	-58	-21
Delta	-400	-320	-80
Moffat	-529	-183	-346
Rio Blanco	-1,489	-436	-1,053



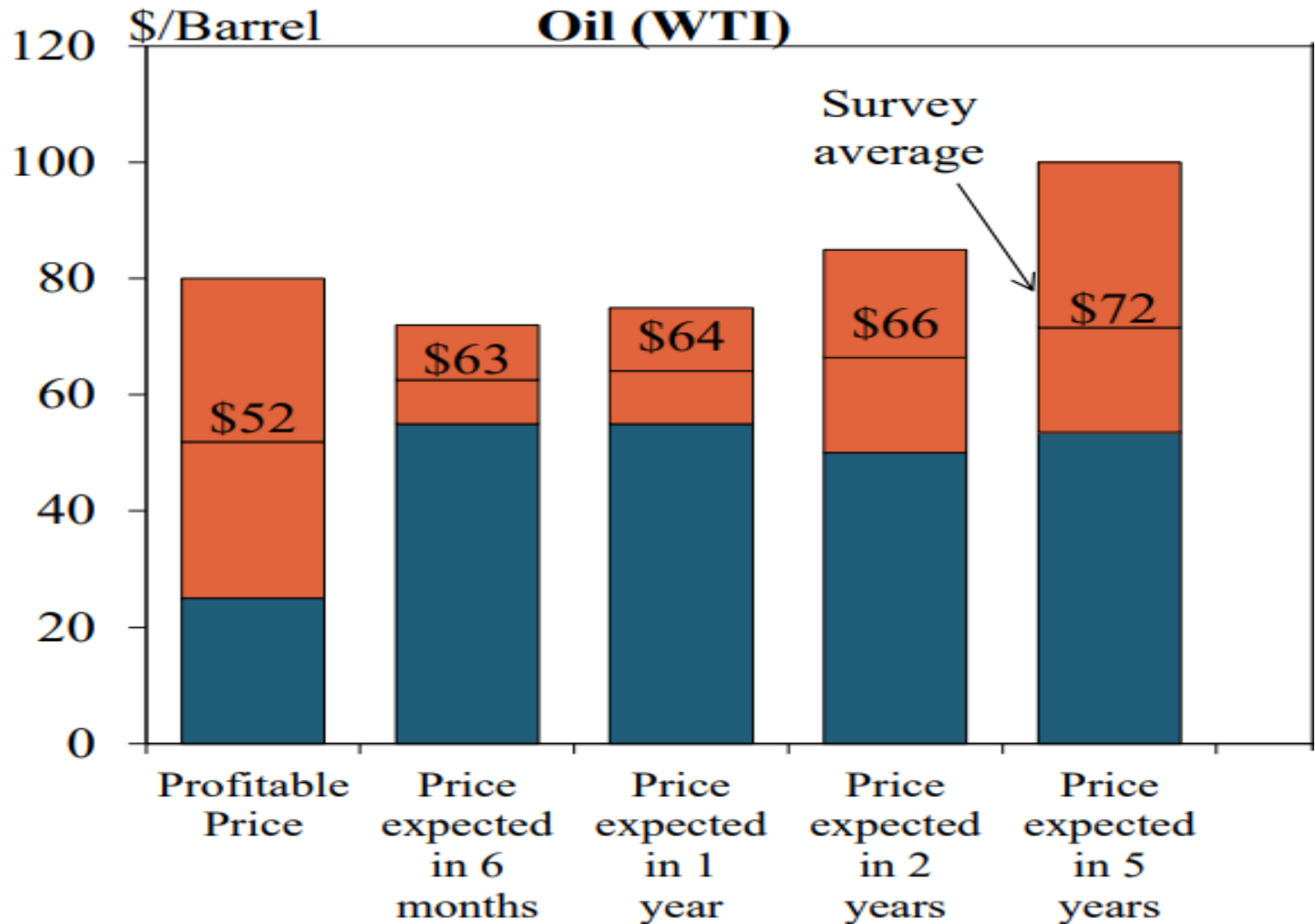
PRICE, PRODUCTION & REVENUE FORECASTS



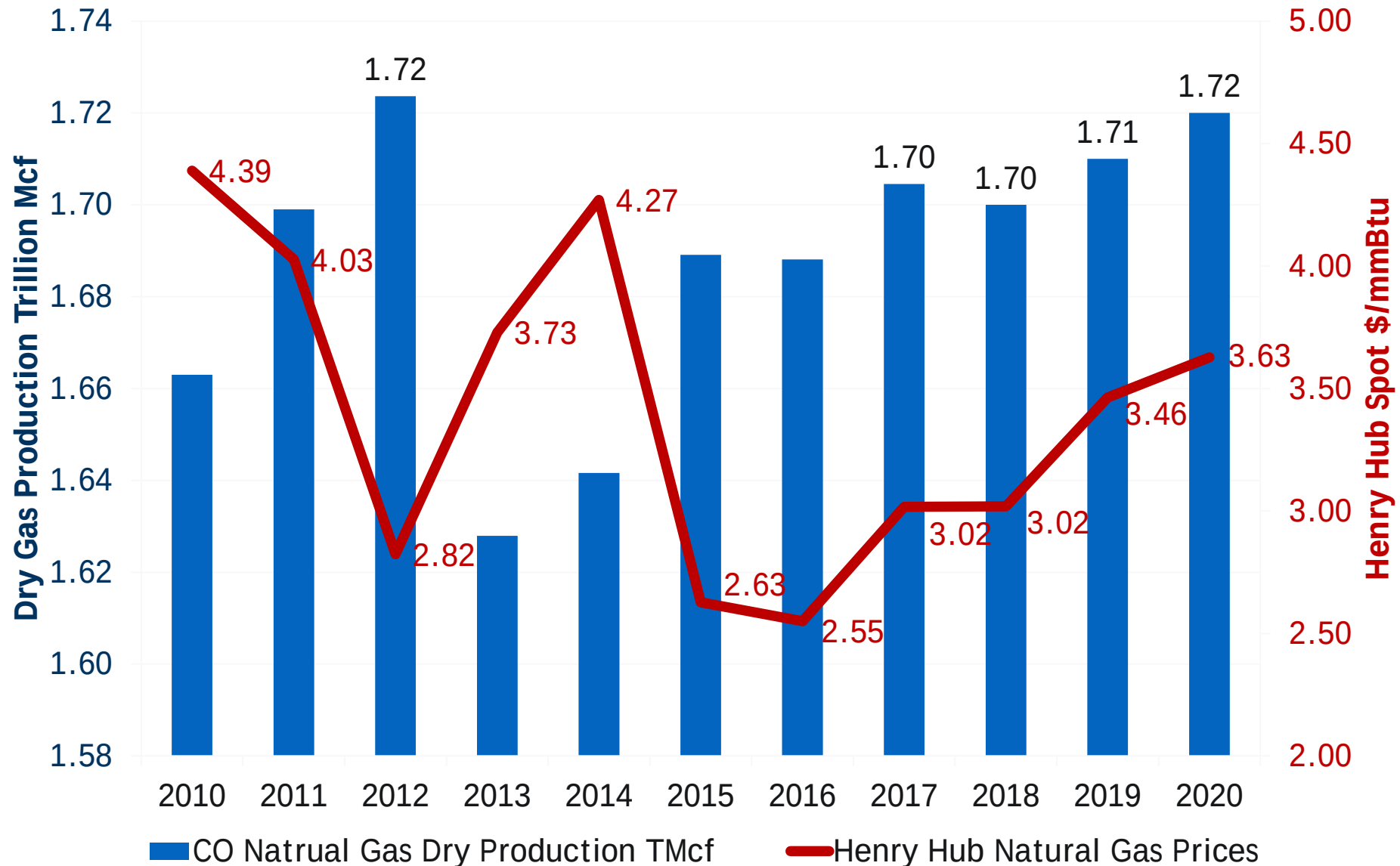
Colorado Oil Production and WTI \$/bbl 2014-17 Actual, 2018-19 Forecast



FEDERAL RESERVE 10J ENERGY SURVEY Q1_2018

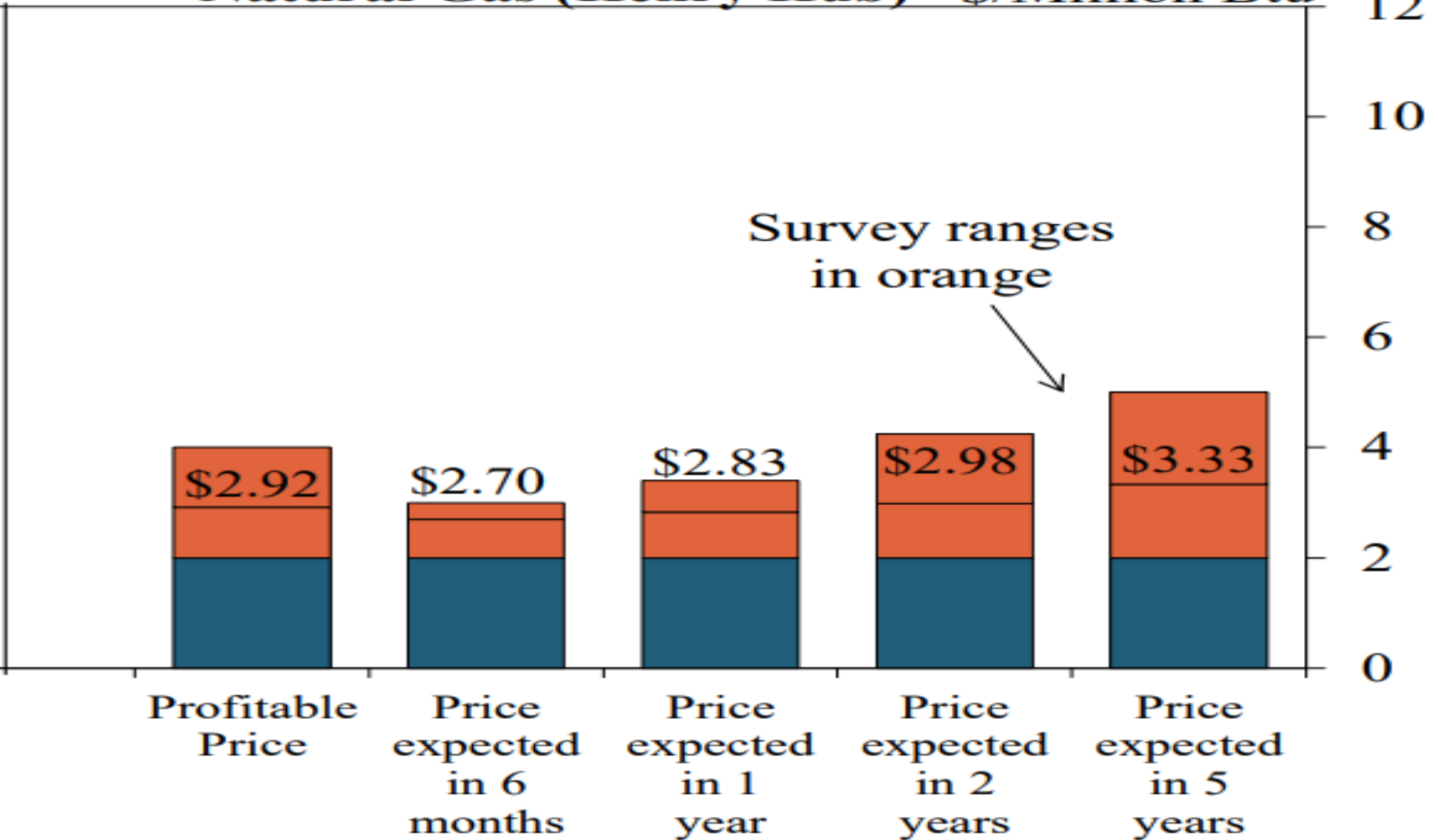


CO Dry Gas Production & Henry Hub \$/MMBtu 2010-17 Actual, 2018-20 Forecast



FEDERAL RESERVE 10J ENERGY SURVEY Q1_2018

Natural Gas (Henry Hub) \$/Million Btu



STATE SEVERANCE TAX FORMULA

State Oil and Gas Severance Tax Revenue =

Production Quantity - Small Well Exemptions Quantity -
Govt Owned production

X Oil or Gas Price

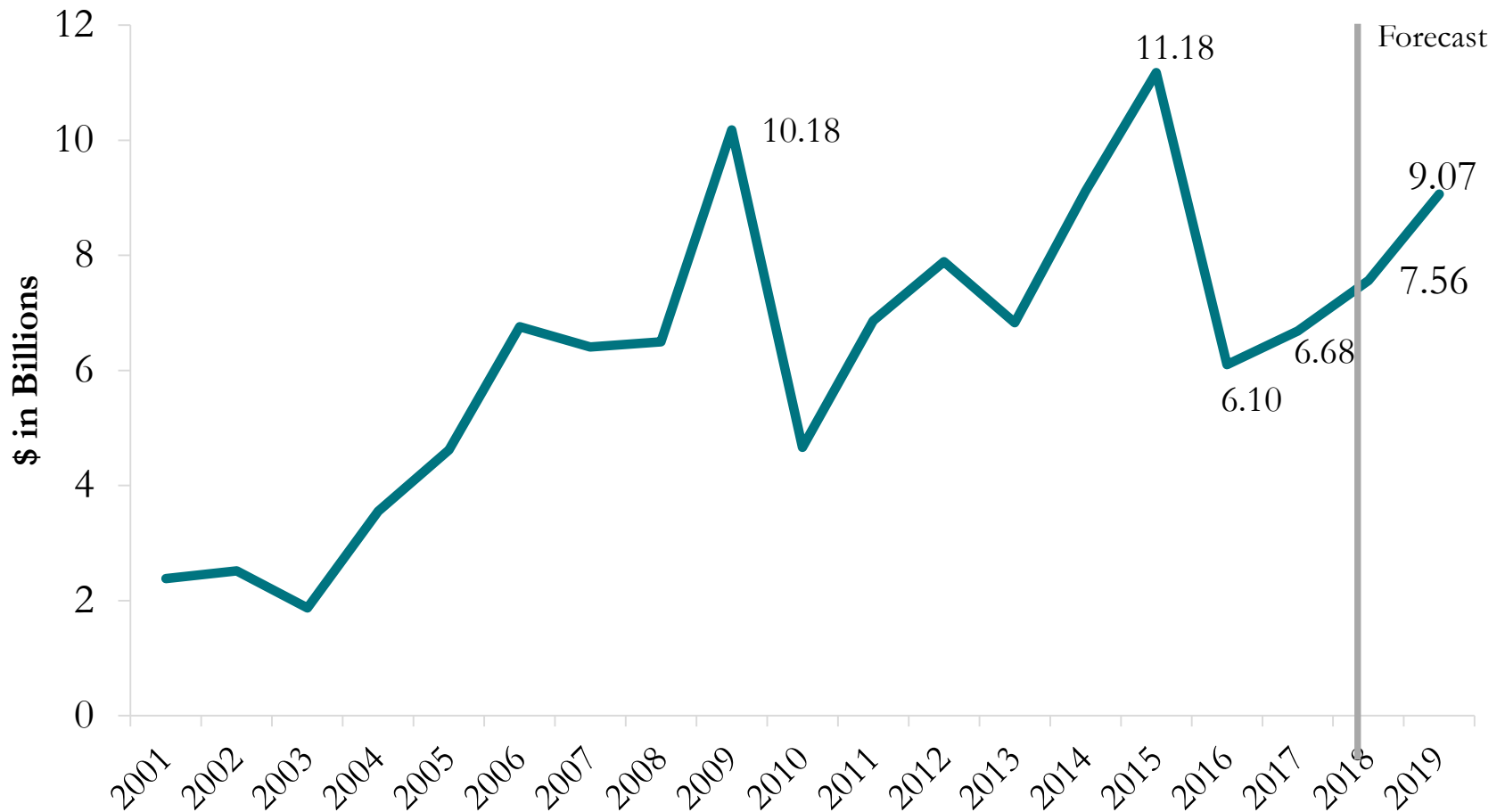
- Processing and Manufacturing (TPM) costs

X Tax Rate

- Property Tax Credit (Ad Valorem)



Assessed Value from Oil and Natural Gas Production in Colorado



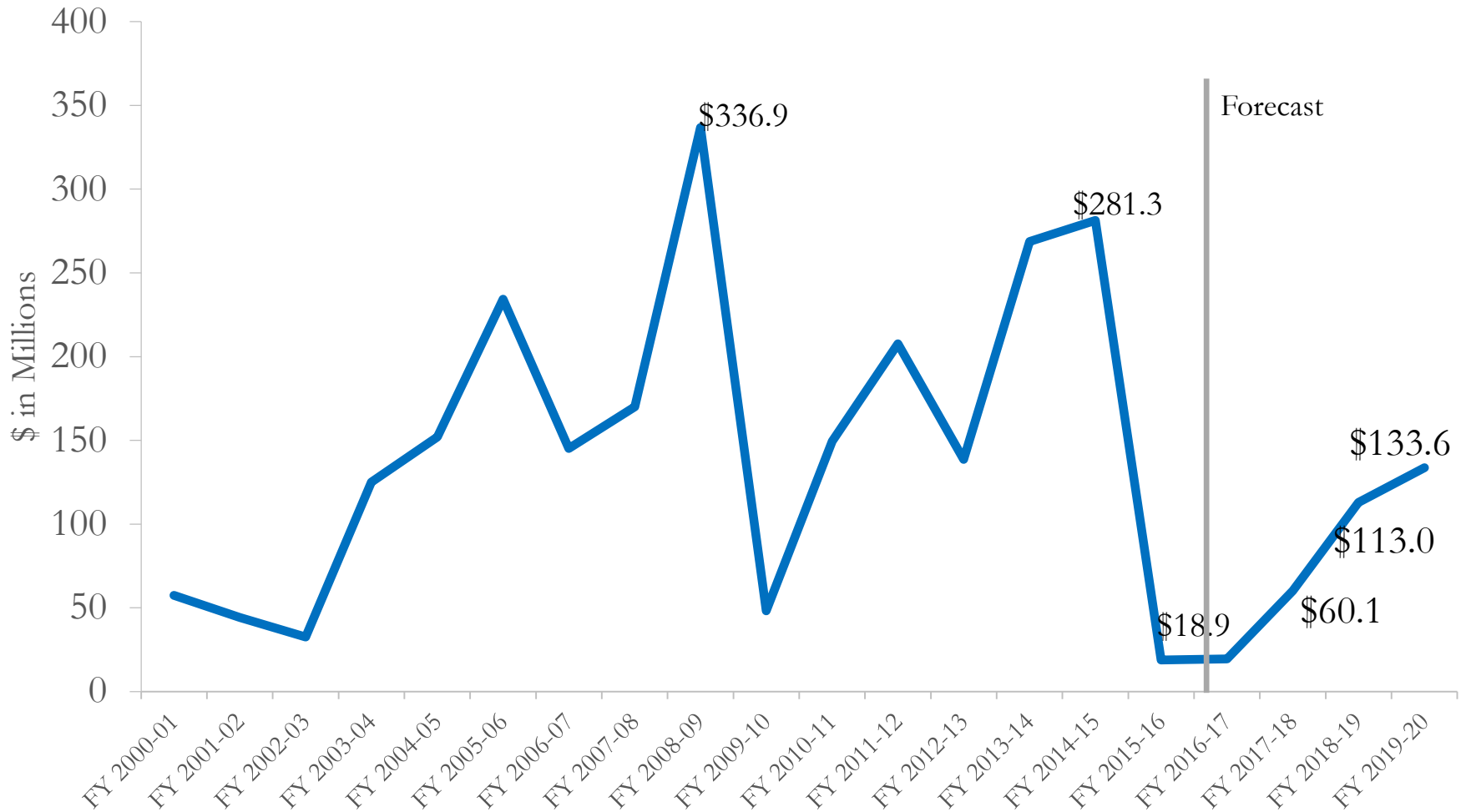
Source: Colorado Oil and Gas Conservation Commission, Colorado Department of Local Affairs Division of Property Taxation, and OSPB March 2018 Forecast



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Governor's Office of State Planning and Budgeting

State Severance Tax Revenue



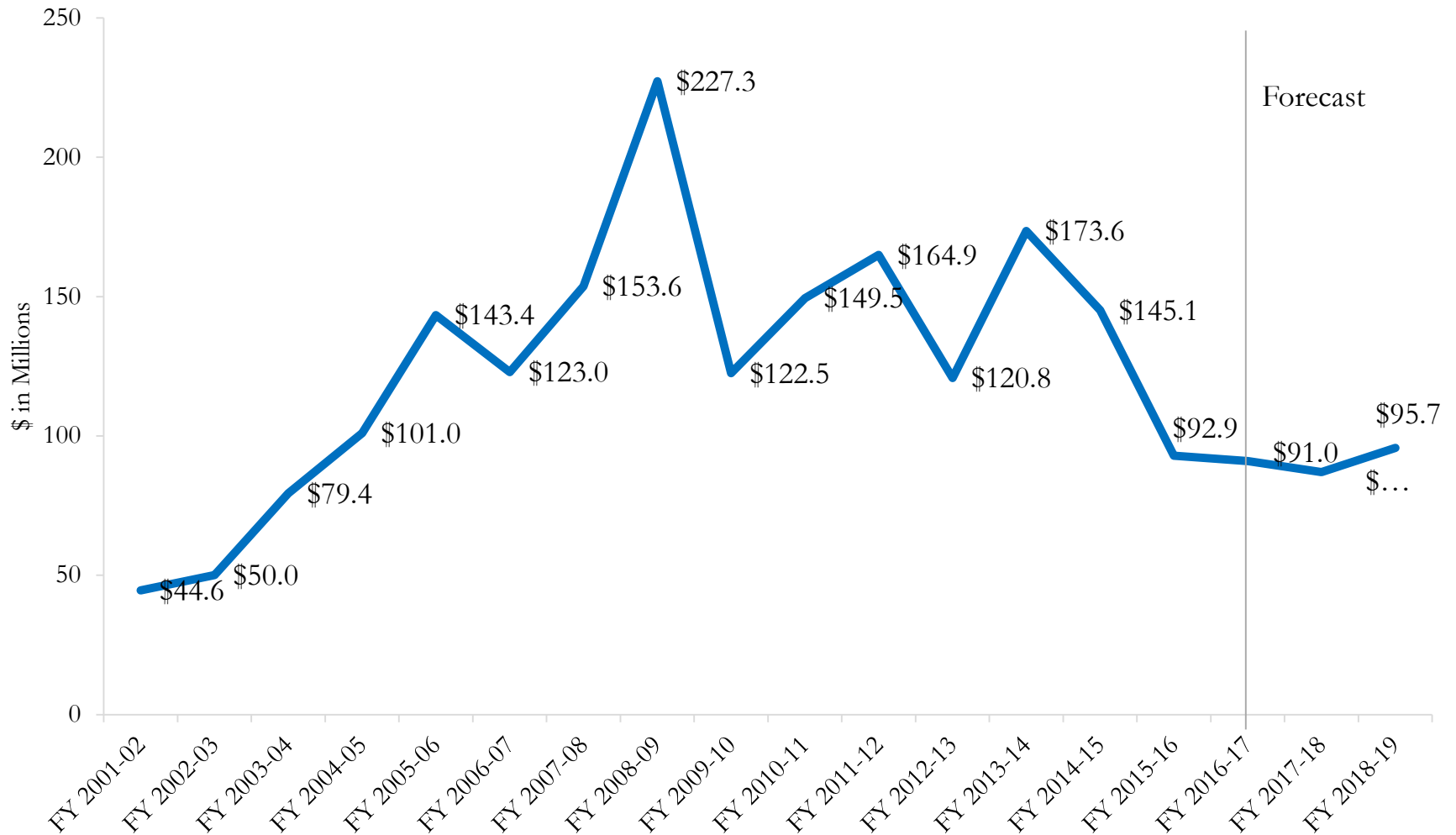
Source: OSPB March 2018 Forecast



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State Federal Mineral Leasing Revenue



Source: OSPB March 2018 Forecast



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Thank you!

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Chris Akers

Chris.Akers@state.co.us

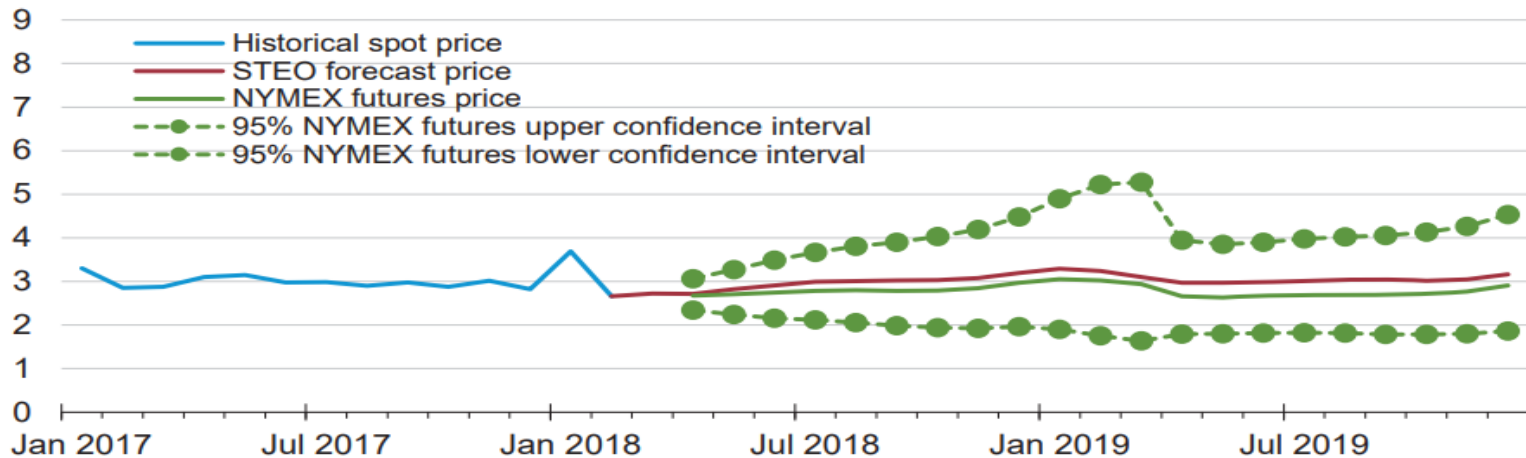
303-864-7751

<https://demography.dola.colorado.gov/>



NATURAL GAS PRICE FORECAST

Henry Hub natural gas price
dollars per million Btu



Note: Confidence interval derived from options market information for the 5 trading days ending Mar 1, 2018. Intervals not calculated for months with sparse trading in near-the-money options contracts.

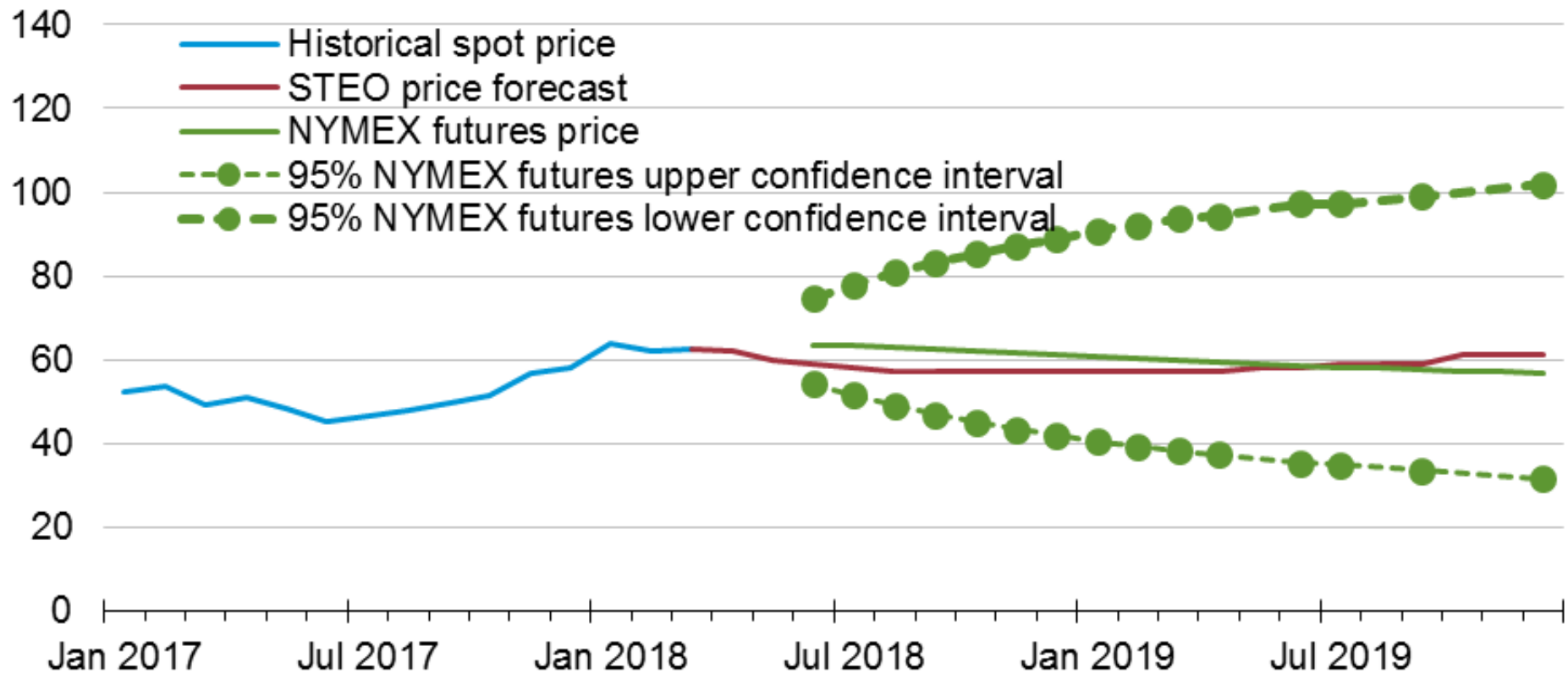
Source: Short-Term Energy Outlook, March 2018, and CME Group.



WTI OIL PRICE FORECAST

West Texas Intermediate (WTI) crude oil price

dollars per barrel



Note: Confidence interval derived from options market information for the 5 trading days ending Apr 5, 2018. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, April 2018, and CME Group.



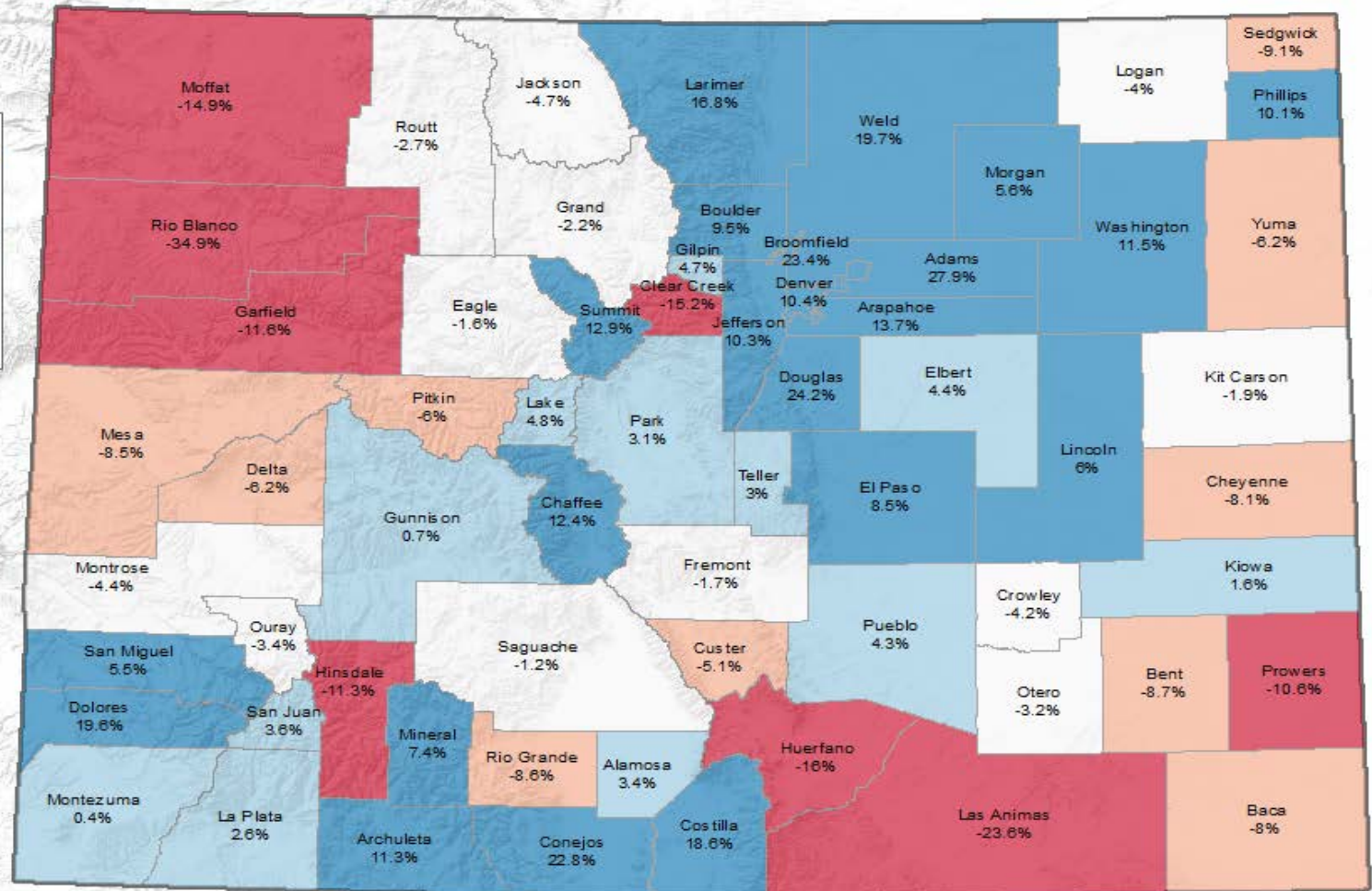
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https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf

2016 Jobs Relative to Pre-Recession Peak

Recession Years: 2007-2009

2016 Jobs vs Pre-Recession Peak



Colorado State Demography Office, 3/2/2017
Source: QCEW

Sources: Esri, USGS, NOAA

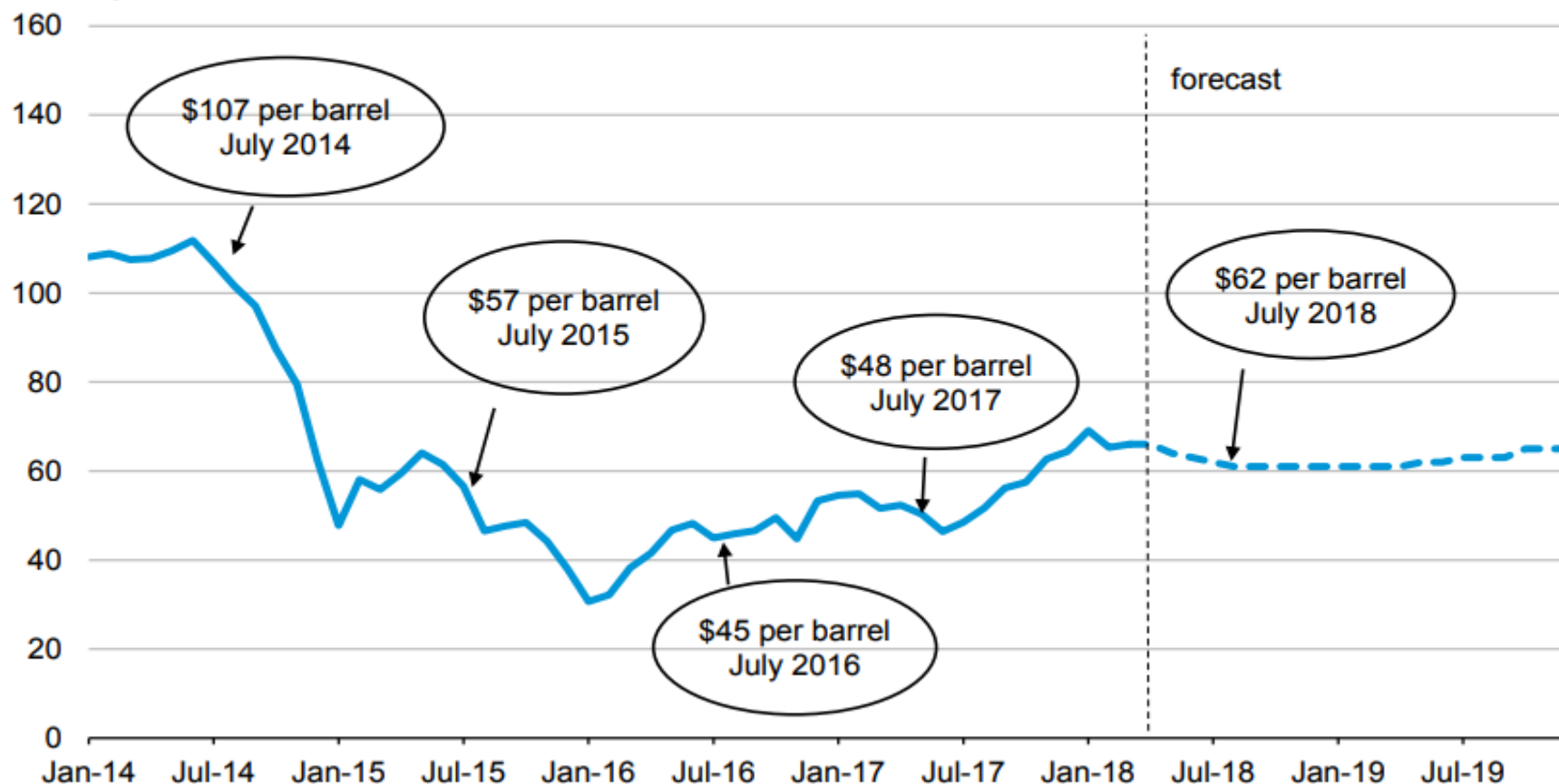


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<http://colmigateway.com>

EIA forecasts Brent crude oil prices to average \$63 per barrel this summer (April-September), \$12 per barrel (29 cents per gallon) higher than last summer

Brent crude oil spot price (monthly average)
dollars per barrel



Source: EIA, Short-Term Energy Outlook, April 2018

Natural Gas Gross Withdrawals and Production

(Volumes in Million Cubic Feet)

Area: Colorado ▼

Period-Unit: Annual-Million Cubic Feet ▼



[Download Series History](#)



[Definitions, Sources & Notes](#)

Show Data By:

☒ Data Series ☐ Area

Graph

Clear

		2012	2013	2014	2015	2016	2017
Gross Withdrawals	☐	1,709,376	1,604,860	1,643,487	1,688,733	1,701,735	1,689,477
From Gas Wells	☐	1,036,572	801,749	728,978	1,009,817	1,077,490	
From Oil Wells	☐	67,466	106,784	178,657	236,015	204,819	
From Shale Gas Wells	☐	228,796	247,046	315,469	49,771	44,757	
From Coalbed Wells	☐	376,543	449,281	420,383	393,130	374,669	
Repressuring	☐	0	0	NA	0	0	
Vented and Flared	☐	0	0	NA	0	0	
Nonhydrocarbon Gases Removed	☐	0	0	0	0	0	
Marketed Production	☐	1,709,376	1,604,860	1,643,487	1,688,733	1,701,735	1,689,477



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Source:

<http://cogcc.state.co.us/documents/data/downloads/statistics/CoWklyMnthlyOGStats.pdf>

COLORADO OIL AND GAS 2016 DRILLING PERMITS BY COUNTY

as of 1-1-2017

